

**Title of Instructional Materials:** Holt McDougal Larson Alg I

**Grade Level:** Algebra I

## Summary of Holt McDougal Larson Alg I

<b>Overall Rating:</b> <input checked="" type="checkbox"/> Weak (1-2) <input type="checkbox"/> Moderate (2-3) <input type="checkbox"/> Strong (3-4)  <b>Summary / Justification / Evidence:</b> This book marches through a series of lessons where an isolated skill and procedures are introduced and practiced without extension or connection to bigger ideas.	<b>Important Mathematical Ideas:</b> <input checked="" type="checkbox"/> Weak (1-2) <input type="checkbox"/> Moderate (2-3) <input type="checkbox"/> Strong (3-4)  <b>Summary / Justification / Evidence:</b> Topics tend to be disconnected and taught as isolated topics. There is little taught as multiple approaches (ie solving equations 3.1 - 3.4 and factoring lessons, excluding optional activities).
<b>Skills and Procedures:</b> <input checked="" type="checkbox"/> Weak (1-2) <input type="checkbox"/> Moderate (2-3) <input type="checkbox"/> Strong (3-4)  <b>Summary / Justification / Evidence:</b> These were not developed conceptually (ie exponents 8-3). The skills were taught in isolation, and the procedure is the primary focus as each new lesson begins with the "how-to" and 4-5 worked out examples.	<b>Mathematical Relationships:</b> <input checked="" type="checkbox"/> Weak (1-2) <input type="checkbox"/> Moderate (2-3) <input type="checkbox"/> Strong (3-4)  <b>Summary / Justification / Evidence:</b> Problems are practiced as "naked" problems until the end of the problem set when they are taught in more application type problems.

Holt McDougal Larson  
Algebra I

↳ overall, covers standards

- weaker on expn.
- not as strong of explanations of some concepts + ideas

# Instructional Materials Analysis and Selection

**Phase 3:** Assessing Content Alignment to the  
Common Core State Standards for Mathematics

**Traditional Pathway for High School: Algebra I**



a project of  
**The Charles A. Dana Center**  
at the University of Texas at Austin

# **Instructional Materials Analysis and Selection**

*Phase 3:*

**Assessing Content Alignment to the Common Core State Standards for Mathematics**

*A project of*

**The Indiana Education Roundtable, The Indiana Department of Education,  
and**

**The Charles A. Dana Center at The University of Texas at Austin**

**2010–2011**



K. Velamuri

Holt McDougal Larson Alg I

### The Real Number System (N-RN)

### The Real Number System (N-RN)

**Extend the properties of exponents to rational exponents.**

N-RN.1

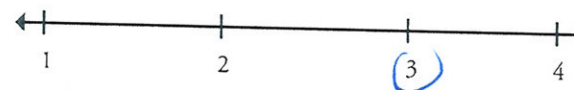
Explain how the definition of the meaning of rational exponents follows from extending the properties of integer exponents to those values, allowing for a notation for radicals in terms of rational exponents. *For example, we define  $5^{1/3}$  to be the cube root of 5 because we want  $(5^{1/3})^3 = 5^{(1/3)3} = 5^1 = 5$  to hold, so  $(5^{1/3})^3$  must equal 5.*

Indicate the chapter(s), section(s), and/or page(s) reviewed.

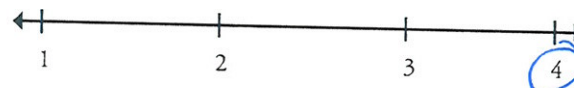
p 509-510

Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.

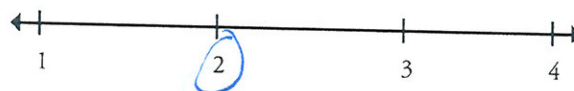
### Important Mathematical Ideas



## Skills and Procedures



## Mathematical Relationships



### Summary / Justification / Evidence

Taught as extension - but good examples + practice

Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):

Overall Rating



Reviewed By: \_\_\_\_\_

Title of Instructional Materials: \_\_\_\_\_

**ALGEBRA I — NUMBER AND QUANTITY (N)**

**The Real Number System (N-RN)**

Extend the properties of exponents to rational exponents.

**N-RN.2**

Rewrite expressions involving radicals and rational exponents using the properties of exponents.

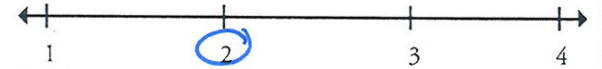
Indicate the chapter(s), section(s), and/or page(s) reviewed.

• p 509 + 510

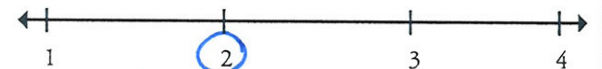
\* further materials coming in Jan. 2011

Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.

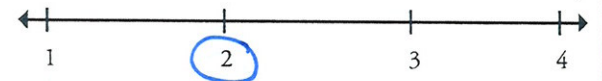
Important Mathematical Ideas



Skills and Procedures



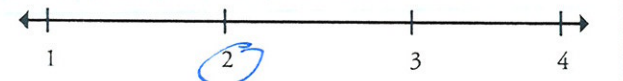
Mathematical Relationships



Summary / Justification / Evidence

Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):

Overall Rating



Reviewed By: \_\_\_\_\_

Title of Instructional Materials: \_\_\_\_\_

# ALGEBRA I — NUMBER AND QUANTITY (N)

## The Real Number System (N-RN)

Use properties of rational and irrational numbers.

### N-RN.3

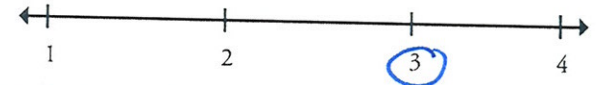
Explain why the sum or product of two rational numbers is rational; that the sum of a rational number and an irrational number is irrational; and that the product of a nonzero rational number and an irrational number is irrational.

Indicate the chapter(s), section(s), and/or page(s) reviewed.

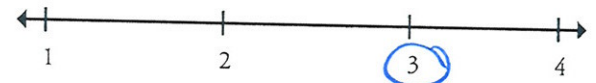
CC: 8-9

Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.

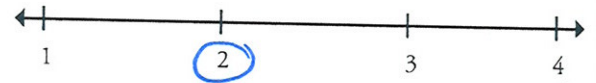
Important Mathematical Ideas



Skills and Procedures



Mathematical Relationships

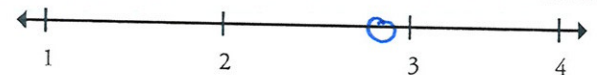


Summary / Justification / Evidence

*Taught as extension - good example + explanation of closure but leaves it up to student to prove last two*

Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):


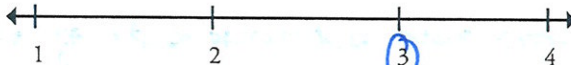
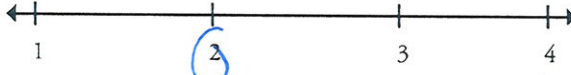
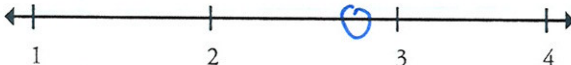
Overall Rating





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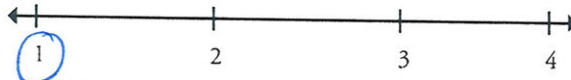
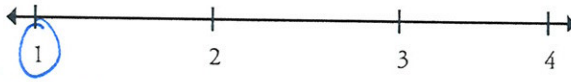
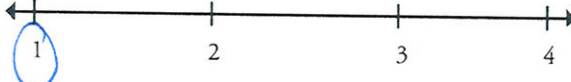
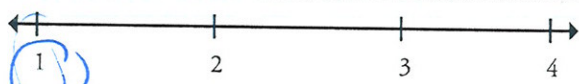
## Quantities (N-Q)

<b>Reason quantitatively and use units to solve problems.</b>	<b>Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.</b>
<b>N-Q.1</b> Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.*  <i>Note: Foundation for work with expressions, equations and functions.</i>	<p>Important Mathematical Ideas </p> <p>Skills and Procedures </p> <p>Mathematical Relationships </p> <p>Summary / Justification / Evidence</p> <hr/> <p>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</p> <hr/> <p>Overall Rating </p>
Indicate the chapter(s), section(s), and/or page(s) reviewed.  p 17-18, 19-20, 27, 37, 42, 44-45, 47, 48, 137, 140, 141, 227-228, 230-232, 429, 432-433, 519, 608, 612-613, 614, 665, 667-668, 886, 887-892, 893, 894  CC: 1-6, 8-9	

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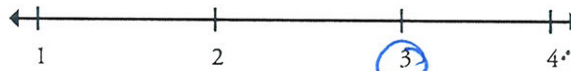
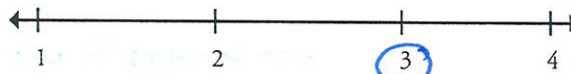

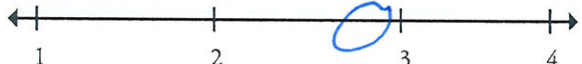
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## Quantities (N-Q)

Reason quantitatively and use units to solve problems.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
<p><b>N-Q.2</b></p> <p>Define appropriate quantities for the purpose of descriptive modeling.*</p> <p>Note: Foundation for work with expressions, equations and functions.</p>	<p>Important Mathematical Ideas </p> <p>Skills and Procedures </p> <p>Mathematical Relationships </p> <p>Summary / Justification / Evidence  <i>Not impressed... built into questions &amp; no explanation or guidance</i></p>
<p>Indicate the chapter(s), section(s), and/or page(s) reviewed.</p> <p><i>p 230, 337, 342, 888, 891, 893</i></p> <p><i>CC: 1-6, 8-9</i></p>	<p>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</p>
	<p>Overall Rating </p>

Title of Instructional Materials:

### Quantities (N-Q)

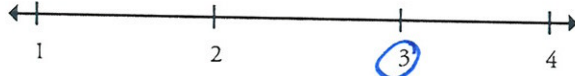
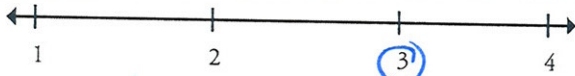
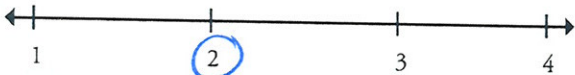
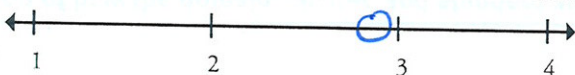
<p><b>Reason quantitatively and use units to solve problems.</b></p>	<p><b>Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.</b></p>
<p><b>N-Q.3</b></p> <p>Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.*</p> <p>Note: Foundation for work with expressions, equations and functions.</p>  <p>Indicate the chapter(s), section(s), and/or page(s) reviewed.</p> <p>p170 + 172</p> <p>CCI-6</p>	<div>Important Mathematical Ideas</div>  <div>Skills and Procedures</div>  <div>Mathematical Relationships</div>  <div>Summary / Justification / Evidence</div> <p>Significant figures well explained in CC</p> <div>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</div>  <div>Overall Rating</div> 



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## Seeing Structure in Expressions (A-SSE)

Interpret the structure of expressions.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
<p><b>A-SSE.1a</b></p> <p>1. Interpret expressions that represent a quantity in terms of its context.*</p> <p>a. Interpret parts of an expression, such as terms, factors, and coefficients.</p> <p>Note: Linear, exponential, quadratic.</p>       <p>Indicate the chapter(s), section(s), and/or page(s) reviewed.</p> <div style="margin-top: 20px;"> <p>p 96                      253</p> <p>97-98                  255</p> <p>99                        256</p> <p>115</p> <p>121</p> <p>126-127</p> <p>244-245</p> <p>247-249</p> </div>	<p><b>Important Mathematical Ideas</b></p>  <p><b>Skills and Procedures</b></p>  <p><b>Mathematical Relationships</b></p>  <p><b>Summary / Justification / Evidence</b></p>     <p><b>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</b></p>     <p><b>Overall Rating</b></p> 

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## Seeing Structure in Expressions (A-SSE)

Same as previous (a)



Reviewed By: \_\_\_\_\_

Title of Instructional Materials: \_\_\_\_\_

# ALGEBRA I — ALGEBRA (A)

## Seeing Structure in Expressions (A-SSE)

Interpret the structure of expressions.

### A-SSE.2

Use the structure of an expression to identify ways to rewrite it. For example, see  $x^4 - y^4$  as  $(x^2)^2 - (y^2)^2$ , thus recognizing it as a difference of squares that can be factored as  $(x^2 - y^2)(x^2 + y^2)$ .

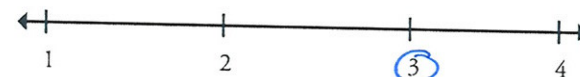
Note: Linear, exponential, quadratic.

Indicate the chapter(s), section(s), and/or page(s) reviewed.

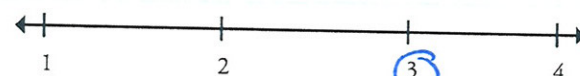
96-98	561-563	603-604
99-102	569-570	606-608
105	582-584	610
106	586-588	
120	592-594	
123-124	596-597	
125	600-601	
555-556		

Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.

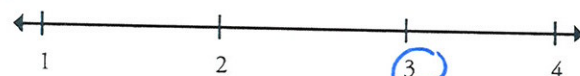
Important Mathematical Ideas



Skills and Procedures



Mathematical Relationships

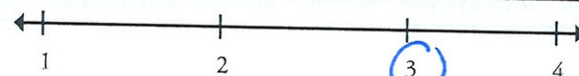


Summary / Justification / Evidence

Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):

No exponential  
No exponent rules

Overall Rating



Title of Instructional Materials: \_\_\_\_\_

## Seeing Structure in Expressions (A-SSE)

<p><b>Write expressions in equivalent forms to solve problems.</b></p>	<p><b>Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.</b></p>
<p><b>A-SSE.3a</b></p> <p>3. Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression.*</p> <p>a. Factor a quadratic expression to reveal the zeros of the function it defines.</p> <p>Note: Quadratic and exponential.</p>  <p>Indicate the chapter(s), section(s), and/or page(s) reviewed.</p> <div style="margin-left: 20px;"> <p>ψ 593   604</p> <p>594   607</p> <p>595   609</p> <p>597   612</p> <p>598   641-642</p> <p>601   647</p> <p>602   669-670</p> <p>603  </p> </div>	<p><b>Important Mathematical Ideas</b> ← — — — → 1                  2                  3                  4</p> <p><b>Skills and Procedures</b> ← — — — → 1                  2                  3                  4</p> <p><b>Mathematical Relationships</b> ← — — — → 1                  2                  3                  4</p> <p><b>Summary / Justification / Evidence</b></p>   <p><b>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</b></p>
	<p><b>Overall Rating</b> ← — — — → 1                  2                  3                  4</p>

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## Seeing Structure in Expressions (A-SSE)

Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.

### Important Mathematical Ideas

- 
- A horizontal number line with arrows at both ends. There are four tick marks labeled 1, 2, 3, and 4 from left to right.

## Skills and Procedures

vidence

Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):

No completing the square; however, max + min

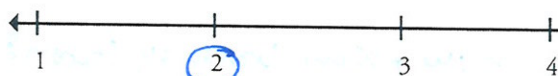

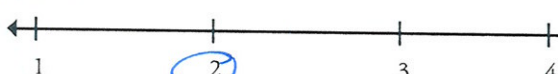

Overall Rating

A horizontal number line with arrows at both ends. There are four tick marks labeled 1, 2, 3, and 4 from left to right.



Title of Instructional Materials: \_\_\_\_\_

## Seeing Structure in Expressions (A-SSE)

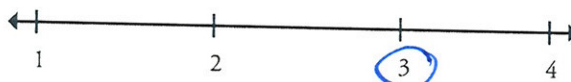
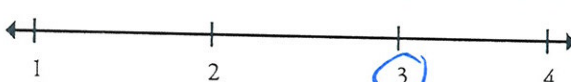
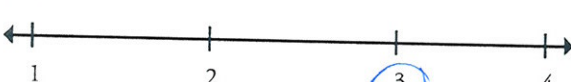
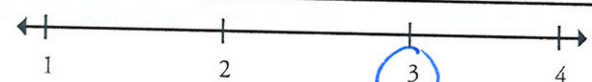
<p><b>Write expressions in equivalent forms to solve problems.</b></p>	<p><b>Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.</b></p>
<p><b>A-SSE.3c</b></p> <p>3. Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression.*</p> <p>c. Use the properties of exponents to transform expressions for exponential functions. <i>For example the expression <math>1.15^t</math> can be rewritten as <math>(1.15^{1/12})^{12t} \approx 1.012^{12t}</math> to reveal the approximate equivalent monthly interest rate if the annual rate is 15%.</i></p> <p>Note: Quadratic and exponential.</p>  <p>Indicate the chapter(s), section(s), and/or page(s) reviewed.</p> <div style="margin-top: 20px;"> <p>p 524 } exp. 536 }</p> <p>quad. covered w/ parts from A SSE.3a</p> </div>	<div>Important Mathematical Ideas</div>  <div>Skills and Procedures</div>  <div>Mathematical Relationships</div>  <div>Summary / Justification / Evidence</div>  <div>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</div>  <div>Overall Rating</div> 

Reviewed By: \_\_\_\_\_

Title of Instructional Materials: \_\_\_\_\_

# ALGEBRA I — ALGEBRA (A)

## Arithmetic with Polynomials and Rational Expressions (A-APR)

<p><b>Perform arithmetic operations on polynomials.</b></p>	<p><b>Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.</b></p>
<p><b>A-APR.1</b></p> <p>Understand that polynomials form a system analogous to the integers, namely, they are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials.</p> <p>Note: Linear and quadratic.</p>	<p><b>Important Mathematical Ideas</b> </p> <p><b>Skills and Procedures</b> </p> <p><b>Mathematical Relationships</b> </p> <p><b>Summary / Justification / Evidence</b></p>
<p>Indicate the chapter(s), section(s), and/or page(s) reviewed.</p> <p>             up 554-556              557-559              561-574              580-581              589              605              615-617           </p> <p>             621              624           </p>	<p><b>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</b></p> <p><b>Overall Rating</b> </p>

Title of Instructional Materials:

### Creating Equations (A-CED)

Create equations that describe numbers or relationships.

A-CED.1

Create equations and inequalities in one variable and use them to solve problems. *Include equations arising from linear and quadratic functions, and simple rational and exponential functions.\**

Note: Linear, quadratic, and exponential (integer inputs only).

Indicate the chapter(s), section(s), and/or page(s) reviewed.

p 137-140	365	588	667-668
143	367-368	595	675
145-146	371-374	599	822
150	380-381	602	825
152-153	383	604	
155	385-386	609	
158-159	577	612	
358	579-580	654	
360-361	585	665	

Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.

Important Mathematical Ideas

Skills and Procedures

Mathematical Relationships

Summary / Justification / Evidence

Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):

Overall Rating

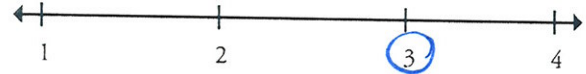
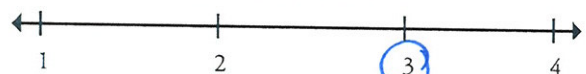
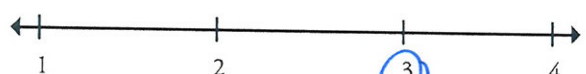
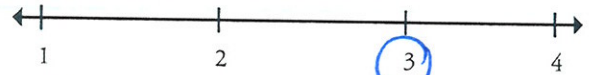


Reviewed By: \_\_\_\_\_

Title of Instructional Materials: \_\_\_\_\_

# ALGEBRA I — ALGEBRA (A)

## Creating Equations (A-CED)

Create equations that describe numbers or relationships.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.																								
<p><b>A-CED.2</b></p> <p>Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.*</p> <p>Note: Linear, quadratic, and exponential (integer inputs only).</p>	<p><b>Important Mathematical Ideas</b> </p> <p><b>Skills and Procedures</b> </p> <p><b>Mathematical Relationships</b> </p> <p><b>Summary / Justification / Evidence</b></p>																								
<p>Indicate the chapter(s), section(s), and/or page(s) reviewed.</p> <p>p 37</p> <table border="0"> <tr> <td>39-40</td> <td>263</td> <td>323-332</td> </tr> <tr> <td>218-221</td> <td>265</td> <td>335-341</td> </tr> <tr> <td>226-232</td> <td>267-268</td> <td>628-630</td> </tr> <tr> <td>245</td> <td>283-289</td> <td>632-634</td> </tr> <tr> <td>247-249</td> <td>292-299</td> <td>636</td> </tr> <tr> <td>254-255</td> <td>303-308</td> <td>638</td> </tr> <tr> <td>257-259</td> <td>313</td> <td>646</td> </tr> <tr> <td></td> <td>315-316</td> <td>648-649</td> </tr> </table>	39-40	263	323-332	218-221	265	335-341	226-232	267-268	628-630	245	283-289	632-634	247-249	292-299	636	254-255	303-308	638	257-259	313	646		315-316	648-649	<p><b>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</b></p>
39-40	263	323-332																							
218-221	265	335-341																							
226-232	267-268	628-630																							
245	283-289	632-634																							
247-249	292-299	636																							
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257-259	313	646																							
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	<p><b>Overall Rating</b> </p>																								

Title of Instructional Materials: \_\_\_\_\_

## Creating Equations (A-CED)

The Charles A. Dana Center



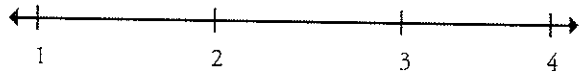



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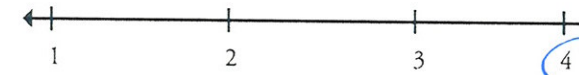
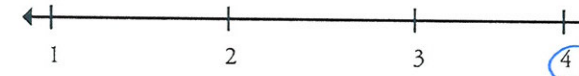
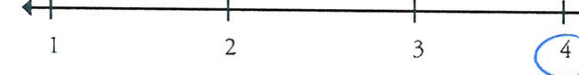
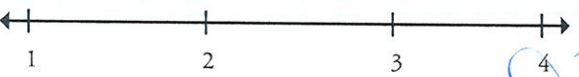
# ALGEBRA I — ALGEBRA (A)

## Creating Equations (A-CED)

Create equations that describe numbers or relationships.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
<p><b>A-CED.4</b></p> <p>Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. <i>For example, rearrange Ohm's law <math>V = IR</math> to highlight resistance <math>R</math>.</i>*</p> <p>Note: Linear, quadratic, and exponential (integer inputs only).</p>	<p>Important Mathematical Ideas </p> <p>Skills and Procedures </p> <p>Mathematical Relationships </p> <p>Summary / Justification / Evidence</p>
<p>Indicate the chapter(s), section(s), and/or page(s) reviewed.</p> <p>           p 184-189            190-191            196-197            199            212            940         </p>	<p>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</p>
	<p>Overall Rating </p>

Title of Instructional Materials: \_\_\_\_\_

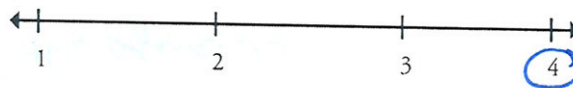
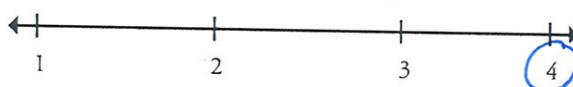
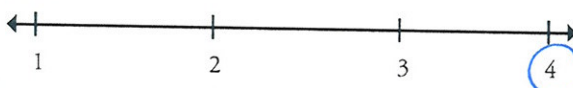
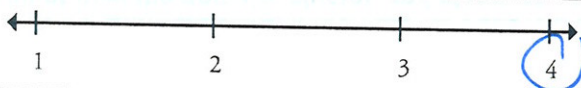
## Reasoning with Equations and Inequalities (A-REI)

<p><b>Understand solving equations as a process of reasoning and explain the reasoning.</b></p>	<p><b>Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.</b></p>
<p><b>A-REI.1</b></p> <p>Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method.</p> <p>Note: Master linear; learn as general principle.</p>  <p>Indicate the chapter(s), section(s), and/or page(s) reviewed.</p> <div style="display: flex;"> <div style="flex: 1;"> <p>q. 134-138 141-144 148-150 154-156 168-169 176-178</p> </div> <div style="flex: 1; border-left: 1px solid black; padding-left: 10px;"> <p>184-186 191-196  CC8-9 CC11-12</p> </div> </div>	<div style="margin-bottom: 10px;"> <p>Important Mathematical Ideas</p>  </div> <div style="margin-bottom: 10px;"> <p>Skills and Procedures</p>  </div> <div style="margin-bottom: 10px;"> <p>Mathematical Relationships</p>  </div> <div style="margin-bottom: 10px;"> <p>Summary / Justification / Evidence</p> </div> <div style="margin-bottom: 10px;"> <p>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</p> </div> <div> <p>Overall Rating</p>  </div>

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### Reasoning with Equations and Inequalities (A-REI)

<b>Solve equations and inequalities in one variable.</b>	<b>Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.</b>
<b>A-REI.3</b> Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.  Note: Linear inequalities; literal that are linear in the variables being solved for; quadratics with real solutions.	<p>Important Mathematical Ideas </p> <p>Skills and Procedures </p> <p>Mathematical Relationships </p> <p>Summary / Justification / Evidence</p>
Indicate the chapter(s), section(s), and/or page(s) reviewed. <div style="display: flex; align-items: center;"> <div style="flex: 1;"> <p>p 132-133 134-146 148-161 163-167 173 177-181 184-194 196-197</p> </div> <div style="flex: 1; border-left: 1px solid black; padding-left: 10px;"> <p>354 356-374 377-378 380-395</p> </div> </div>	<p>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</p>
	Overall Rating 

Title of Instructional Materials:

## Reasoning with Equations and Inequalities (A-REI)

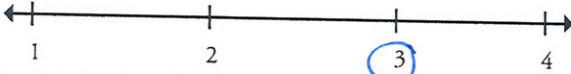
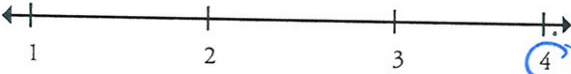
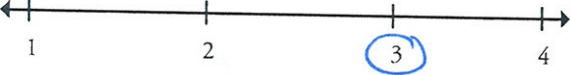



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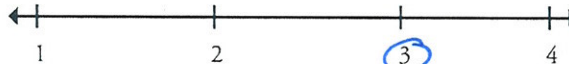
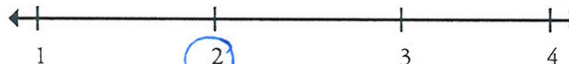
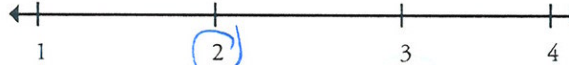

# ALGEBRA I — ALGEBRA (A)

## Reasoning with Equations and Inequalities (A-REI)

Solve equations and inequalities in one variable.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
<p><b>A-REI.4b</b></p> <p>4. Solve quadratic equations in one variable.</p> <p>b. Solve quadratic equations by inspection (e.g., for <math>x^2 = 49</math>), taking square roots, completing the square, the quadratic formula and factoring, as appropriate to the initial form of the equation. Recognize when the quadratic formula gives complex solutions and write them as <math>a \pm bi</math> for real numbers <math>a</math> and <math>b</math>.</p> <p>Note: Linear inequalities; literal that are linear in the variables being solved for; quadratics with real solutions.</p> <p>Indicate the chapter(s), section(s), and/or page(s) reviewed.</p> <div style="display: flex; justify-content: space-between;"> <div style="border-right: 1px solid black; padding-right: 10px;"> <p>p 585</p> <p>586</p> <p>589</p> <p>595-597</p> <p>599</p> <p>602-603</p> <p>605</p> </div> <div style="border-right: 1px solid black; padding-right: 10px;"> <p>613</p> <p>618-619</p> <p>621-623</p> <p>652-659</p> <p>661</p> <p>664-668</p> <p>671-683</p> </div> <div> <p>695</p> <p>698-699</p> <p>701-703</p> <p>707</p> <p>727</p> </div> </div>	<p><b>Important Mathematical Ideas</b> </p> <p><b>Skills and Procedures</b> </p> <p><b>Mathematical Relationships</b> </p> <p><b>Summary / Justification / Evidence</b></p> <p><b>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</b></p> <p><b>Overall Rating</b> </p>

Title of Instructional Materials:

## Reasoning with Equations and Inequalities (A-REI)

<b>Solve systems of equations.</b>	<b>Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.</b>
<b>A-REI.5</b> Prove that, given a system of two equations in two variables, replacing one equation by the sum of that equation and a multiple of the other produces a system with the same solutions.  Note: Linear-linear and linear-quadratic.	<p>Important Mathematical Ideas </p> <p>Skills and Procedures </p> <p>Mathematical Relationships </p> <p>Summary / Justification / Evidence</p>
Indicate the chapter(s), section(s), and/or page(s) reviewed.  <div style="font-size: 2em; color: blue;">CC 18-19</div>	<p>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):  <div style="color: blue;">No quads</div> </p>
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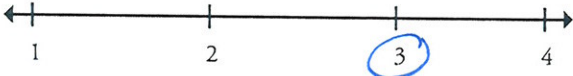
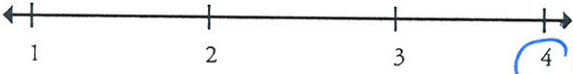
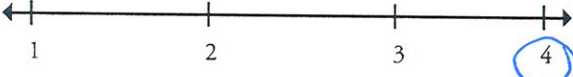

### Reasoning with Equations and Inequalities (A-REI)

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Title of Instructional Materials: \_\_\_\_\_

## Reasoning with Equations and Inequalities (A-REI)


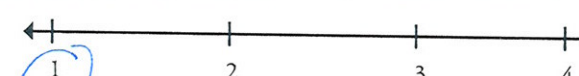
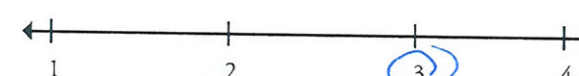
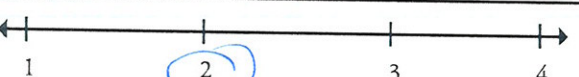
<b>Solve systems of equations.</b>	<b>Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.</b>
<b>A-REI.7</b> Solve a simple system consisting of a linear equation and a quadratic equation in two variables algebraically and graphically. <i>For example, find the points of intersection between the line <math>y = -3x</math> and the circle <math>x^2 + y^2 = 3</math>.</i> <i>Note: Linear-linear and linear-quadratic.</i>	<p>Important Mathematical Ideas </p> <p>Skills and Procedures </p> <p>Mathematical Relationships </p> <p>Summary / Justification / Evidence <i>good</i></p>
Indicate the chapter(s), section(s), and/or page(s) reviewed.  <i>CC 21-27</i>	<b>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</b>  
	<b>Overall Rating</b> 



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## Reasoning with Equations and Inequalities (A-REI)

<p><b>Represent and solve equations and inequalities graphically.</b></p>	<p><b>Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.</b></p>
<p><b>A-REI.10</b></p> <p>Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line).</p> <p>Note: Linear and exponential; learn as general principle.</p>         <p>Indicate the chapter(s), section(s), and/or page(s) reviewed.</p> <p>p 215</p>	<div> <div>Important Mathematical Ideas</div>  </div> <div> <div>Skills and Procedures</div>  </div> <div> <div>Mathematical Relationships</div>  </div> <div> <div>Summary / Justification / Evidence</div> <p>just a # @ the bottom of the pg. - on 215</p> </div> <div> <div>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</div> <p>no exp. ;</p> </div> <div> <div>Overall Rating</div>  </div>

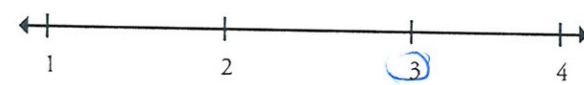
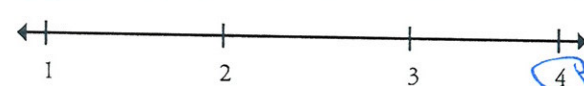
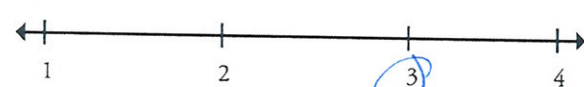
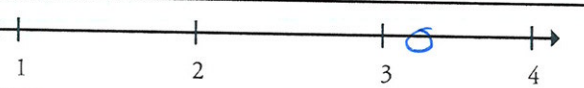
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## Reasoning with Equations and Inequalities (A-REI)

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### Reasoning with Equations and Inequalities (A-REI)

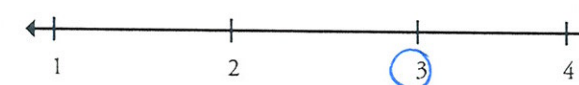
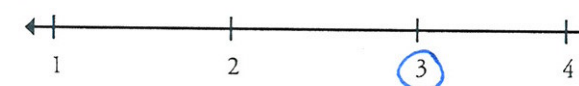
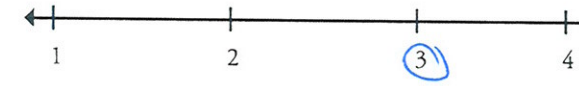
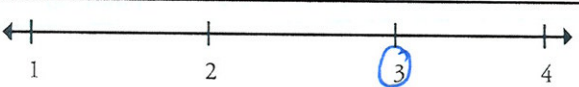
<p><b>Represent and solve equations and inequalities graphically.</b></p>	<p><b>Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.</b></p>
<p><b>A-REI.12</b></p> <p>Graph the solutions to a linear inequality in two variables as a half-plane (excluding the boundary in the case of a strict inequality), and graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding half-planes.</p> <p>Note: Linear and exponential; learn as general principle.</p>       <p>Indicate the chapter(s), section(s), and/or page(s) reviewed.</p> <div style="margin-top: 20px;"> <span style="font-size: 2em; vertical-align: middle; margin-right: 10px;">{</span> <div style="display: inline-block; vertical-align: top;"> <p>p 404 - 413</p> <p>418 - 419</p> <p>422 - 423</p> <p>465 - 474</p> <p>478 - 479</p> <p>494</p> </div> <div style="display: inline-block; vertical-align: top; margin-left: 10px;"> <p>559</p> <p>568</p> <p>580</p> </div> </div>	<div style="margin-bottom: 10px;"> <p>Important Mathematical Ideas</p>  </div> <div style="margin-bottom: 10px;"> <p>Skills and Procedures</p>  </div> <div style="margin-bottom: 10px;"> <p>Mathematical Relationships</p>  </div> <div style="margin-bottom: 10px;"> <p>Summary / Justification / Evidence</p> </div> <div style="margin-bottom: 10px;"> <p>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</p> </div> <div> <p>Overall Rating</p>  </div>



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## Interpreting Functions (F-IF)

<p>Understand the concept of a function and use function notation.</p>	<p>Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.</p>
<p><b>F-IF.1</b></p> <p>Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If <math>f</math> is a function and <math>x</math> is an element of its domain, then <math>f(x)</math> denotes the output of <math>f</math> corresponding to the input <math>x</math>. The graph of <math>f</math> is the graph of the equation <math>y = f(x)</math>.</p> <p>Note: Learn as general principle; focus on linear and exponential and on arithmetic and geometric sequences.</p>	<p>Important Mathematical Ideas </p> <p>Skills and Procedures </p> <p>Mathematical Relationships </p> <p>Summary / Justification / Evidence</p>
<p>Indicate the chapter(s), section(s), and/or page(s) reviewed.</p> <p> <math>\varphi</math> 35-36  38  43-45  48-50  52  56-57  167  263-264 </p> <p>266-268</p>	<p>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</p> <p>No exp.</p> <p>Overall Rating </p>

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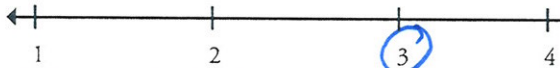
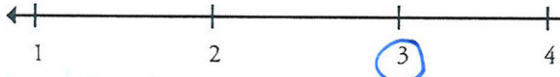

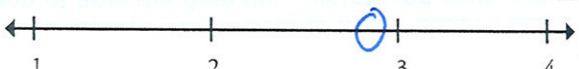
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### Interpreting Functions (F-IF)

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Title of Instructional Materials:

## Interpreting Functions (F-IF)

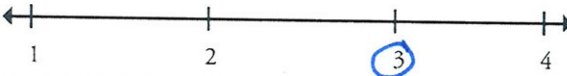
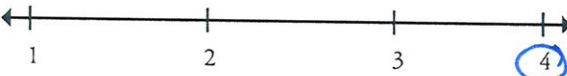
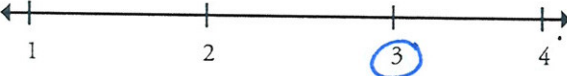
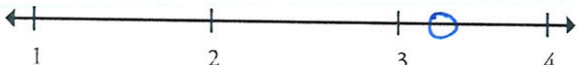
Understand the concept of a function and use function notation.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
<p><b>F-IF.3</b></p> <p>Recognize that sequences are functions, sometimes defined recursively, whose domain is a subset of the integers. <i>For example, the Fibonacci sequence is defined recursively by <math>f(0) = f(1) = 1</math>, <math>f(n+1) = f(n) + f(n-1)</math> for <math>n \geq 1</math>.</i></p> <p>Note: Learn as general principle; focus on linear and exponential and on arithmetic and geometric sequences.</p>       <p>Indicate the chapter(s), section(s), and/or page(s) reviewed.</p> <p>p 309-310 §39-540 A3-A4, A5 (?)</p>	<p>Important Mathematical Ideas </p> <p>Skills and Procedures </p> <p>Mathematical Relationships </p> <p>Summary / Justification / Evidence .</p>
	<p>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</p>    <p>Overall Rating </p>



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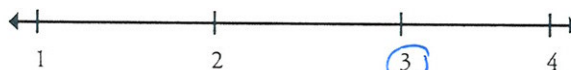
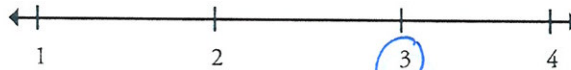
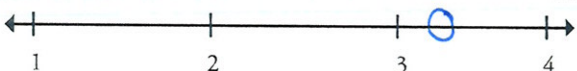
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## Interpreting Functions (F-IF)

Interpret functions that arise in applications in terms of the context.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
<p>F-IF.4</p> <p>For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.*</p> <p>Note: Linear, exponential, and quadratic.</p>	<p>Important Mathematical Ideas </p> <p>Skills and Procedures </p> <p>Mathematical Relationships </p> <p>Summary / Justification / Evidence</p>
Indicate the chapter(s), section(s), and/or page(s) reviewed.	Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):
<p>p 227-228      339-341</p> <p>230-233      631</p> <p>238      633-634</p> <p>241-242      637</p> <p>267      639-640</p> <p>313      646</p> <p>315      647-648</p> <p>335-337      CC 28-34</p>	<p>exon, symm, end beh, periodicity</p> <p>Overall Rating </p>

Title of Instructional Materials:

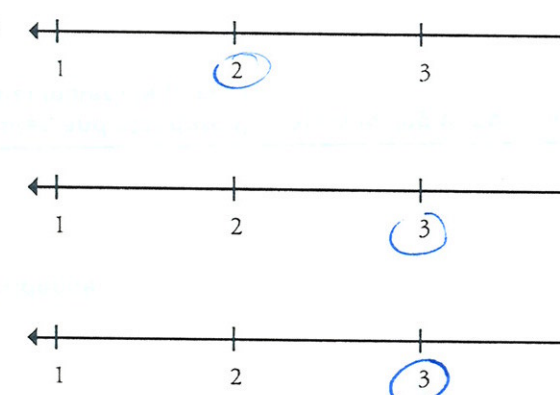
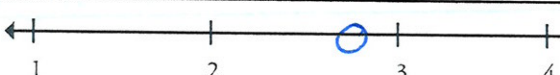
## Interpreting Functions (F-IF)

<p><b>Interpret functions that arise in applications in terms of the context.</b></p> <p><b>F-IF.5</b></p> <p>Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. <i>For example, if the function <math>h(n)</math> gives the number of person-hours it takes to assemble <math>n</math> engines in a factory, then the positive integers would be an appropriate domain for the function.*</i></p> <p>Note: Linear, exponential, and quadratic.</p>  <p>Indicate the chapter(s), section(s), and/or page(s) reviewed.</p> <div style="margin-left: 20px;"> <p>p. 44-46      315</p> <p>51                526</p> <p>56-57          631</p> <p>217-221       633</p> <p>228             781</p> <p>232-233</p> <p>263</p> <p>267</p> <p>313</p> </div>	<p><b>Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.</b></p> <p>Important Mathematical Ideas </p> <p>Skills and Procedures </p> <p>Mathematical Relationships </p> <p>Summary / Justification / Evidence</p>  <p>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</p> <p style="color: blue; font-style: italic;">No exp.</p>  <p>Overall Rating </p>
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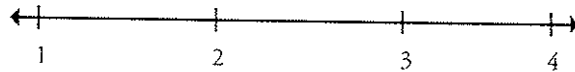

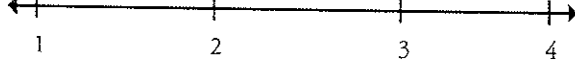

Title of Instructional Materials: \_\_\_\_\_

### Interpreting Functions (F-IF)

<p><b>Interpret functions that arise in applications in terms of the context.</b></p>	<p><b>Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.</b></p>
<p><b>F-IF.6</b></p> <p>Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.*</p> <p>Note: Linear, exponential, and quadratic.</p>  <p>Indicate the chapter(s), section(s), and/or page(s) reviewed.</p> <div style="display: flex; align-items: center;"> <div style="margin-right: 10px;"> <p>p 237-238</p> <p>240-242</p> <p>269</p> <p>294-295</p> <p>299</p> <p>301</p> <p>304-305</p> <p>307</p> </div> <div style="border-left: 1px solid black; padding-left: 10px;"> <p>326-330</p> <p>CC 35</p> </div> </div>	<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>Important Mathematical Ideas</p> <p>Skills and Procedures</p> <p>Mathematical Relationships</p> <p>Summary / Justification / Evidence</p> </div> <div style="width: 50%; text-align: center;">  </div> </div> <p>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</p> <p>no exp. or quad</p> <div style="display: flex; justify-content: space-between; margin-top: 20px;"> <div style="width: 45%;"> <p>Overall Rating</p> </div> <div style="width: 50%; text-align: center;">  </div> </div>

Title of Instructional Materials: \_\_\_\_\_

### Interpreting Functions (F-IF)

<b>Analyze functions using different representations.</b>	<b>Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.</b>
<b>F-IF.7a</b> 7. Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.* a. Graph linear and quadratic functions and show intercepts, maxima, and minima. Note: Linear, exponential, quadratic, absolute value, step, piecewise-defined.	<div>Important Mathematical Ideas </div> <div>Skills and Procedures </div> <div>Mathematical Relationships </div> <div>Summary / Justification / Evidence</div>
Indicate the chapter(s), section(s), and/or page(s) reviewed.	Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):
	Overall Rating 

Reviewed By: DATE: 11/1/16

Title of Instructional Materials: Holt McDougal - Larson

## Documenting Alignment to the Standards for Mathematical Practice

① may be 2

### 1. Make sense of problems and persevere in solving them.

Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.

Indicate the chapter(s), section(s), or page(s) reviewed.

Portions of the mathematical practice that are missing or not well developed in the instructional materials (if any):

Summary/Justification/Evidence

Overall Rating



Reviewed By: \_\_\_\_\_

Title of Instructional Materials: \_\_\_\_\_

## Documenting Alignment to the Standards for Mathematical Practice

### 2. Reason abstractly and quantitatively.

Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.

Indicate the chapter(s), section(s), or page(s) reviewed.

Portions of the mathematical practice that are missing or not well developed in the instructional materials (if any):

Summary/Justification/Evidence

Overall Rating





# CONTENT STANDARDS RUBRIC

## Algebra 1

The Real Number System N -RN

**Extend the properties of exponents to rational exponents.**

1. Explain how the definition of the meaning of rational exponents follows from extending the properties of integer exponents to those values, allowing for a notation for radicals in terms of rational exponents. *For example, we define  $5^{1/3}$  to be the cube root of 5 because we want  $(5^{1/3})^3 = 5$  to hold, so  $(5^{1/3})^3$  must equal 5.*

2. Rewrite expressions involving radicals and rational exponents using the properties of exponents.

**Use properties of rational and irrational numbers.**

3. Explain why the sum or product of two rational numbers is rational; that the sum of a rational number and an irrational number is irrational; and that the product of a nonzero rational number and an irrational number is irrational

Irrational, and that the product of a nonzero rational number and an irrational number is irrational.														
	Development				Connections				Rigor and Depth				Overall/Evidence	
Mathematical Ideas	Are ideas conceptually developed (4) or approached from a simple skill level (1)?				Are ideas expanded to other math ideas (4) or developed independently of each other (1)?				Do ideas require extension of important ideas and the use of multiple approaches (4) or only using procedures and memorization (1)?				Lesson 8.3	
	4	3	2	1	4	3	2	1	4	3	2	1		
Skills and Procedures	Are skills and procedures integrated with math ideas (4) or are they the primary focus of the lesson (1)?				Are skills and procedures connected to other ideas (4) or treated as isolated skills with no connection (1)?				Are skills and procedures critical to the application of other math ideas (4) or are they practiced without conceptual development (1)?					
	4	3	2	1	4	3	2	1	4	3	2	1		
Mathematical Relationships	Are math relationships evident to build understanding (4) or appear as a series of independent skills (1)?				Are relationships integrated with other math ideas (4) or are problems focusing on drill only(1)?				Do relationships require a broad use of math (4) or only require the use of skills and procedures (1)?					
	4	3	2	1	4	3	2	1	4	3	2	1		
Missing or weak content from this standard														

Overall for this Standard: 2

# CONTENT STANDARDS RUBRIC

## Algebra 1

Quantities N -Q

**Reason quantitatively and use units to solve problems. (Foundation work with expressions, equations, and functions)**

1. Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.
2. Define appropriate quantities for the purpose of descriptive modeling.
3. Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.

	Development				Connections				Rigor and Depth				Overall/Evidence
Mathematical Ideas	Are ideas conceptually developed (4) or approached from a simple skill level (1)?				Are ideas expanded to other math ideas (4) or developed independently of each other (1)?				Do ideas require extension of important ideas and the use of multiple approaches (4) or only using procedures and memorization (1)?				
	4	3	2	1	4	3	2	1	4	3	2	1	
Skills and Procedures	Are skills and procedures integrated with math ideas (4) or are they the primary focus of the lesson (1)?				Are skills and procedures connected to other ideas (4) or treated as isolated skills with no connection (1)?				Are skills and procedures critical to the application of other math ideas (4) or are they practiced without conceptual development (1)?				
	4	3	2	1	4	3	2	1	4	3	2	1	
Mathematical Relationships	Are math relationships evident to build understanding (4) or appear as a series of independent skills (1)?				Are relationships integrated with other math ideas (4) or are problems focusing on drill only(1)?				Do relationships require a broad use of math (4) or only require the use of skills and procedures (1)?				
	4	3	2	1	4	3	2	1	4	3	2	1	

Missing or weak content from this standard

Overall for this Standard: \_\_\_\_\_

# CONTENT STANDARDS RUBRIC

## Algebra 1

Creating Equations: A-CED

**Create equations that describe numbers or relationships**

1. Create equations and inequalities in one variable and use them to solve problems. *Include equations arising from linear and quadratic functions, and simple rational and exponential functions.*
2. Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.
3. Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or nonviable options in a modeling context. *For example, represent inequalities describing nutritional and cost constraints on combinations of different foods.*
4. Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. *For example, rearrange Ohm's law  $V = IR$  to highlight resistance  $R$ .*

	Development				Connections				Rigor and Depth				Overall/Evidence
Mathematical Ideas	Are ideas conceptually developed (4) or approached from a simple skill level (1)?				Are ideas expanded to other math ideas (4) or developed independently of each other (1)?				Do ideas require extension of important ideas and the use of multiple approaches (4) or only using procedures and memorization (1)?				S.2 Equations in context
	4	3	2	1	4	3	2	1	4	3	2	1	
				X			X					X	
Skills and Procedures	Are skills and procedures integrated with math ideas (4) or are they the primary focus of the lesson (1)?				Are skills and procedures connected to other ideas (4) or treated as isolated skills with no connection (1)?				Are skills and procedures critical to the application of other math ideas (4) or are they practiced without conceptual development (1)?				
	4	3	2	1	4	3	2	1	4	3	2	1	
				X				X			X		
Mathematical Relationships	Are math relationships evident to build understanding (4) or appear as a series of independent skills (1)?				Are relationships integrated with other math ideas (4) or are problems focusing on drill only (1)?				Do relationships require a broad use of math (4) or only require the use of skills and procedures (1)?				
	4	3	2	1	4	3	2	1	4	3	2	1	
			X					X				X	
Missing or weak content from this standard													

Overall for this Standard: 1

# CONTENT STANDARDS RUBRIC

## Algebra 1

Reasoning with Equations and Inequalities A -RE I

**Understand solving equations as a process of reasoning and explain the reasoning**

1. Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method.

**Solve equations and inequalities in one variable**

3. Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.

4. Solve quadratic equations in one variable.

- a. Use the method of completing the square to transform any quadratic equation in  $x$  into an equation of the form  $(x - p)^2 = q$  that has the same solutions. Derive the quadratic formula from this form.

- b. Solve quadratic equations by inspection (e.g., for  $x^2 = 49$ ), taking square roots, completing the square, the quadratic formula and factoring, as appropriate to the initial form of the equation. Recognize when the quadratic formula gives complex solutions and write them as  $a \pm bi$  for real numbers  $a$  and  $b$ .

initial form of the equation. Recognize when the quadratic formula gives complex solutions and write them as $a + bi$ , or for real numbers $k$ and $p$ .														
	Development				Connections				Rigor and Depth				Overall/Evidence	
Mathematical Ideas	Are ideas conceptually developed (4) or approached from a simple skill level (1)?				Are ideas expanded to other math ideas (4) or developed independently of each other (1)?				Do ideas require extension of important ideas and the use of multiple approaches (4) or only using procedures and memorization (1)?					
	4	3	2	1	4	3	2	1	4	3	2	1		
Skills and Procedures	Are skills and procedures integrated with math ideas (4) or are they the primary focus of the lesson (1)?				Are skills and procedures connected to other ideas (4) or treated as isolated skills with no connection (1)?				Are skills and procedures critical to the application of other math ideas (4) or are they practiced without conceptual development (1)?					
	4	3	2	1	4	3	2	1	4	3	2	1		
Mathematical Relationships	Are math relationships evident to build understanding (4) or appear as a series of independent skills (1)?				Are relationships integrated with other math ideas (4) or are problems focusing on drill only(1)?				Do relationships require a broad use of math (4) or only require the use of skills and procedures (1)?					
	4	3	2	1	4	3	2	1	4	3	2	1		
Missing or weak content from this standard														

Overall for this Standard: \_\_\_\_\_



# CONTENT STANDARDS RUBRIC

## Algebra 1

### Interpreting Functions F-IF

#### Analyze functions using different representations

7. Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.

a. Graph linear and quadratic functions and show intercepts, maxima, and minima.

b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions.

c. Graph exponential functions, showing intercepts and end behavior.

8. Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function.

a. Use the process of factoring and completing the square in a quadratic function to show zeros, extreme values, and symmetry of the graph, and interpret these in terms of a context.

b. Use the properties of exponents to interpret expressions for exponential functions. *For example, identify percent rate of change in functions such as  $y = (1.02)^t$ ,  $y = (0.97)^t$ ,  $y = (1.01)^{12t}$ ,  $y = (1.2)^{t/10}$ , and classify them as representing exponential growth or decay.*

9. Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). *For example, given a graph of one quadratic function and an algebraic expression for another, say which has the larger maximum.*

	Development				Connections				Rigor and Depth				Overall/Evidence
Mathematical Ideas	Are ideas conceptually developed (4) or approached from a simple skill level (1)?				Are ideas expanded to other math ideas (4) or developed independently of each other (1)?				Do ideas require extension of important ideas and the use of multiple approaches (4) or only using procedures and memorization (1)?				<i>Quadratic...</i> <i>Convert different quadratic form?</i> <i>10.2</i>
	4	3	2	1	4	3	2	1	4	3	2	1	
Skills and Procedures	Are skills and procedures integrated with math ideas (4) or are they the primary focus of the lesson (1)?				Are skills and procedures connected to other ideas (4) or treated as isolated skills with no connection (1)?				Are skills and procedures critical to the application of other math ideas (4) or are they practiced without conceptual development (1)?				<i>Quadratics 10.2</i>
	4	3	2	1	4	3	2	1	4	3	2	1	
Mathematical Relationships	Are math relationships evident to build understanding (4) or appear as a series of independent skills (1)?				Are relationships integrated with other math ideas (4) or are problems focusing on drill only (1)?				Do relationships require a broad use of math (4) or only require the use of skills and procedures (1)?				
	4	3	2	1	4	3	2	1	4	3	2	1	

Missing or weak content from this standard

Overall for this Standard: 1

# CONTENT STANDARDS RUBRIC

## Algebra 1

### Building Functions F-BF

#### Build a function that models a relationship between two quantities

1. Write a function that describes a relationship between two quantities.

a. Determine an explicit expression, a recursive process, or steps for calculation from a context.

b. Combine standard function types using arithmetic operations. *For example, build a function that models the temperature of a cooling body by adding a constant function to a decaying exponential, and relate these functions to the model.*

c. (+) Compose functions. *For example, if  $T(y)$  is the temperature in the atmosphere as a function of height, and  $h(t)$  is the height of a weather balloon as a function of time, then  $T(h(t))$  is the temperature at the location of the weather balloon as a function of time.*

2. Write arithmetic and geometric sequences both recursively and with an explicit formula, use them to model situations, and translate between the two forms.

forms.

	Development				Connections				Rigor and Depth				Overall/Evidence			
Mathematical Ideas	Are ideas conceptually developed (4) or approached from a simple skill level (1)?				Are ideas expanded to other math ideas (4) or developed independently of each other (1)?				Do ideas require extension of important ideas and the use of multiple approaches (4) or only using procedures and memorization (1)?							
	4	3	2	1	4	3	2	1	4	3	2	1				
Skills and Procedures	Are skills and procedures integrated with math ideas (4) or are they the primary focus of the lesson (1)?				Are skills and procedures connected to other ideas (4) or treated as isolated skills with no connection (1)?				Are skills and procedures critical to the application of other math ideas (4) or are they practiced without conceptual development (1)?							
	4	3	2	1	4	3	2	1	4	3	2	1				
Mathematical Relationships	Are math relationships evident to build understanding (4) or appear as a series of independent skills (1)?				Are relationships integrated with other math ideas (4) or are problems focusing on drill only(1)?				Do relationships require a broad use of math (4) or only require the use of skills and procedures (1)?							
	4	3	2	1	4	3	2	1	4	3	2	1				
Missing or weak content from this standard																

Overall for this Standard: \_\_\_\_\_

# CONTENT STANDARDS RUBRIC

## Algebra 1

Building Functions F-BF

### Build new functions from existing functions

3. Identify the effect on the graph of replacing  $f(x)$  by  $f(x) + k$ ,  $k f(x)$ ,  $f(kx)$ , and  $f(x + k)$  for specific values of  $k$  (both positive and negative); find the value of  $k$  given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. *Include recognizing even and odd functions from their graphs and algebraic expressions for them.*
4. Find inverse functions. ?
- a. Solve an equation of the form  $f(x) = c$  for a simple function  $f$  that has an inverse and write an expression for the inverse. *For example,  $f(x) = 2x^3$  or  $f(x) = (x+1)/(x-1)$  for  $x \neq 1$ .*

	Development				Connections				Rigor and Depth				Overall/Evidence
Mathematical Ideas	Are ideas conceptually developed (4) or approached from a simple skill level (1)?				Are ideas expanded to other math ideas (4) or developed independently of each other (1)?				Do ideas require extension of important ideas and the use of multiple approaches (4) or only using procedures and memorization (1)?				
	4	3	2	1	4	3	2	1	4	3	2	1	
Skills and Procedures	Are skills and procedures integrated with math ideas (4) or are they the primary focus of the lesson (1)?				Are skills and procedures connected to other ideas (4) or treated as isolated skills with no connection (1)?				Are skills and procedures critical to the application of other math ideas (4) or are they practiced without conceptual development (1)?				
	4	3	2	1	4	3	2	1	4	3	2	1	
Mathematical Relationships	Are math relationships evident to build understanding (4) or appear as a series of independent skills (1)?				Are relationships integrated with other math ideas (4) or are problems focusing on drill only(1)?				Do relationships require a broad use of math (4) or only require the use of skills and procedures (1)?				
	4	3	2	1	4	3	2	1	4	3	2	1	
Missing or weak content from this standard													
BF 4 ?													

Overall for this Standard: \_\_\_\_\_

# CONTENT STANDARDS RUBRIC

## Algebra 1

Linear, Quadratic, and Exponential Models F-LE

### Construct and compare linear, quadratic, and exponential models and solve problems

1. Distinguish between situations that can be modeled with linear functions and with exponential functions.
  - a. Prove that linear functions grow by equal differences over equal intervals, and that exponential functions grow by equal factors over equal intervals.
  - b. Recognize situations in which one quantity changes at a constant rate per unit interval relative to another.
  - c. Recognize situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another.
2. Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table). *p. 539*
3. Observe using graphs and tables that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or (more generally) as a polynomial function.

### Interpret expressions for functions in terms of the situation they model

5. Interpret the parameters in a linear or exponential function in terms of a context.

	Development				Connections				Rigor and Depth				Overall/Evidence
Mathematical Ideas	Are ideas conceptually developed (4) or approached from a simple skill level (1)?				Are ideas expanded to other math ideas (4) or developed independently of each other (1)?				Do ideas require extension of important ideas and the use of multiple approaches (4) or only using procedures and memorization (1)?				<i>pp. 520-527</i> <i>connection &amp; context</i> <i>begin in problem 39.</i>
	4	3	2	1	4	3	2	1	4	3	2	1	
Skills and Procedures	Are skills and procedures integrated with math ideas (4) or are they the primary focus of the lesson (1)?				Are skills and procedures connected to other ideas (4) or treated as isolated skills with no connection (1)?				Are skills and procedures critical to the application of other math ideas (4) or are they practiced without conceptual development (1)?				<i>p. 539</i>
	4	3	2	1	4	3	2	1	4	3	2	1	
Mathematical Relationships	Are math relationships evident to build understanding (4) or appear as a series of independent skills (1)?				Are relationships integrated with other math ideas (4) or are problems focusing on drill only (1)?				Do relationships require a broad use of math (4) or only require the use of skills and procedures (1)?				
	4	3	2	1	4	3	2	1	4	3	2	1	

Missing or weak content from this standard

*LE 3*

Overall for this Standard: 1